

A unique opportunity to invest in a globally significant lithium resource

ASX: LTR

Kathleen Valley Lithium Project

Bell Potter Emerging Leaders Conference | September 2021

Important information



Forward looking statements

This Presentation contains forward-looking statements which are identified by words such as 'may', 'could', 'believes', 'estimates', 'targets', 'expects', or 'intends' and other similar words that involve risks and uncertainties. These statements are based on an assessment of present economic and operating conditions, and on a number of assumptions regarding future events and actions that, as at the date of this Presentation, are considered reasonable. Such forward-looking statements are not a guarantee of future performance and involve known and unknown risks, uncertainties, assumptions and other important factors, many of which are beyond the control of the Company, the Directors and the management. The Directors cannot and do not give any assurance that the results, performance or achievements expressed or implied by the forward-looking statements. The Directors have no intention to update or revise forward-looking statements, or to publish prospective financial information in the future, regardless of whether new information, future events or any other factors affect the information contained in this Presentation, except where required by law or the ASX listing rules.

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Authorisation

This Presentation has been authorised for release by the Board.

Competent person statement

The Information in this Presentation that relates to Mineral Resources for the Kathleen Valley Project is extracted from the ASX announcement "Strong progress with Kathleen Valley Definitive Feasibility Study as ongoing work identifies further key project enhancements " released on the 8th April 2021 which is available on <u>www.ltresources.com.au</u>

The information in this Presentation that relates to Exploration Results for the Kathleen Valley Project is extracted from the ASX announcement "Kathleen Valley Lithium-Tantalum Project Advancing to the Next Level with Definitive Feasibility Study Underway" released on 11th January 2021 which is available on www.ltresources.com.au.

The information in this Presentation that relates to grade recovery curves for the Kathleen Valley Project is extracted from the ASX announcement "Liontown defines input criteria for updated PFS at Kathleen Valley Lithium-Tantalum Project, W.A." released on 9th June 2020 which is available on <u>www.ltresources.com.au</u>.

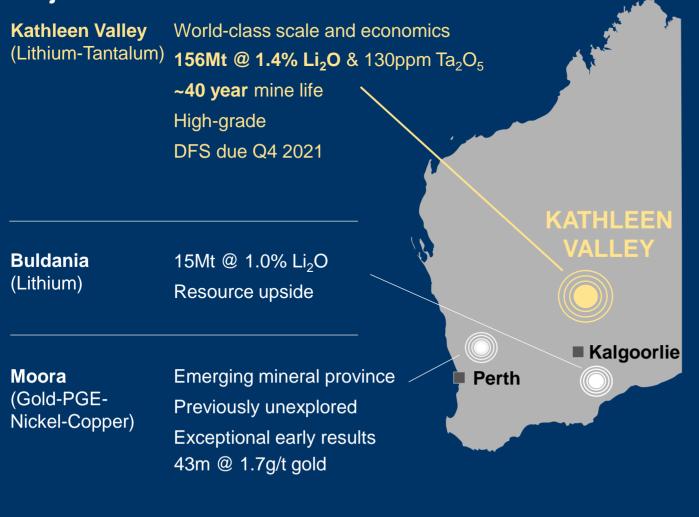
The Information in this Presentation that relates to Mineral Resources for the Buldania Project is extracted from the ASX announcement "Liontown announces maiden Mineral Resource Estimate for its 100%-owned Buldania Lithium Project, WA" released on the 8th November 2019 which is available on <u>www.ltresources.com.au</u>.

The Information in this Presentation that relates to Exploration Results for the Moora Project is extracted from the ASX announcement "Drilling defines multiple bedrock zones with potential for a significant discovery at the Moora Project, WA" released on the 13th April 2021 which is available on www.ltresources.com.au.

The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and that all material assumptions and technical parameters underpinning the estimates or production targets or forecast financial information derived from a production target (as applicable) in the relevant market announcements continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.

WA-focused world-class hard rock lithium developer

Projects





1: As at 30 June 2021. Includes ~\$12.5M in cash (30 Jun 21) and ~\$2.2M in Lachlan Star Limited ordinary shares issued; LSA share price of \$0.056 as at 30 June 2021 plus \$52m proceeds of July 2021 Capital Raising (before costs).

Team

Liontown Investment Proposition







Some of the best undeveloped spodumene deposits located in a reliable mining jurisdiction

- Kathleen Valley large, high grade and competitive cost structure
- Buldania further potential to build on current resources



Well defined plan for development of the deposits

- Strong ESG credentials small environmental footprint
- Releasing DFS in Q4 2021



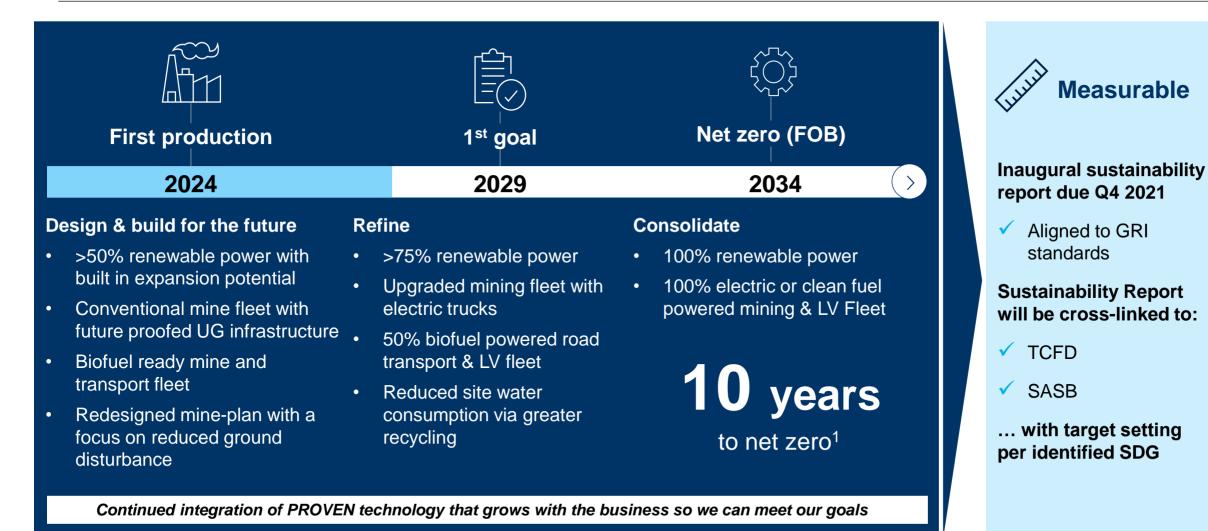
Developing and preserving valuable options

- Full optionality tonnes
- Studying further value add opportunities Refining

Climate strategy roadmap - a net zero trajectory

Li

Proven technology, real time frame, no false promises and measurable



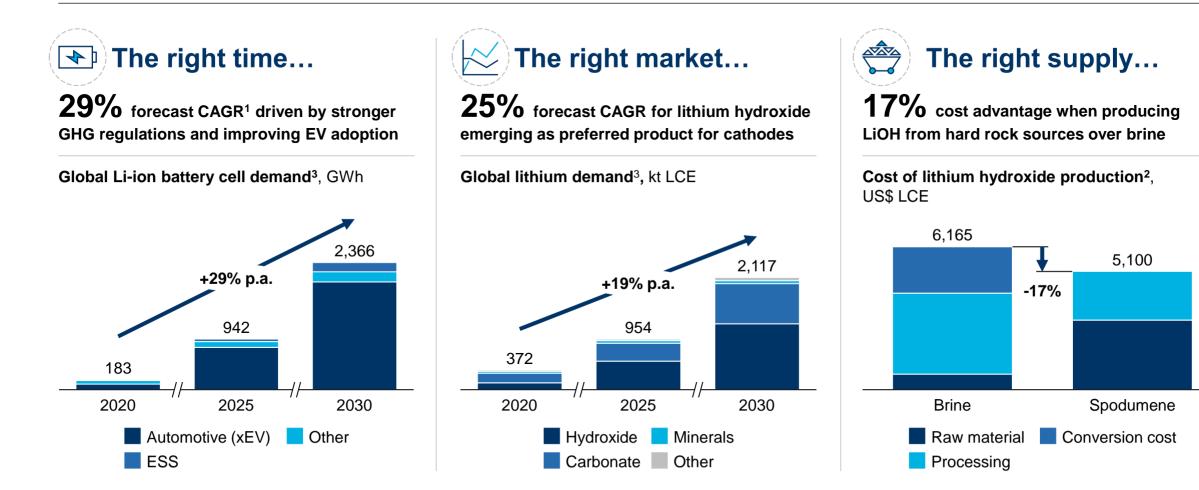
5 | LIONTOWN RESOURCES INVESTOR PRESENTATION 1. Target from first production.

Update on Lithium Market

Strong long-term market fundamentals

Strong demand growth driven by global energy transformation supports new spodumene projects entering the market



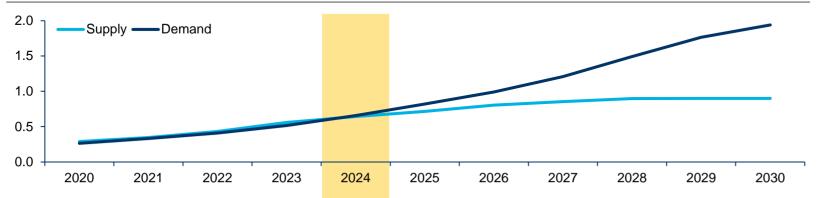


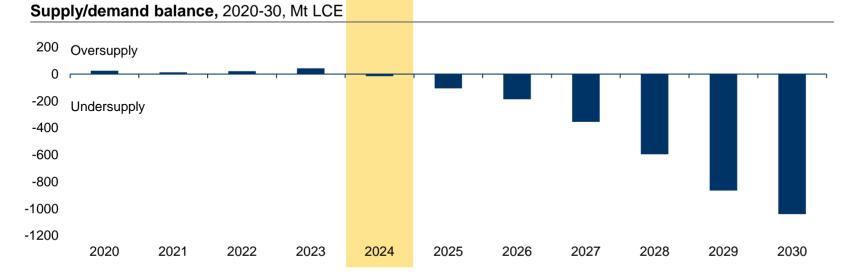
- 1: Base case scenario.
- 2: Costs represent indicative 2025 cost base for typical brine and spodumene operations; Source: MineSpans.
- 3: Source: Roskill.

Expected market deficit by 2024, aligning with the commencement of Kathleen Valley production

Global lithium market balance (battery grade), 2020-30, Mt LCE

Accelerated KV production commencement







>1 Mt

LCE shortfall in supply by 2030

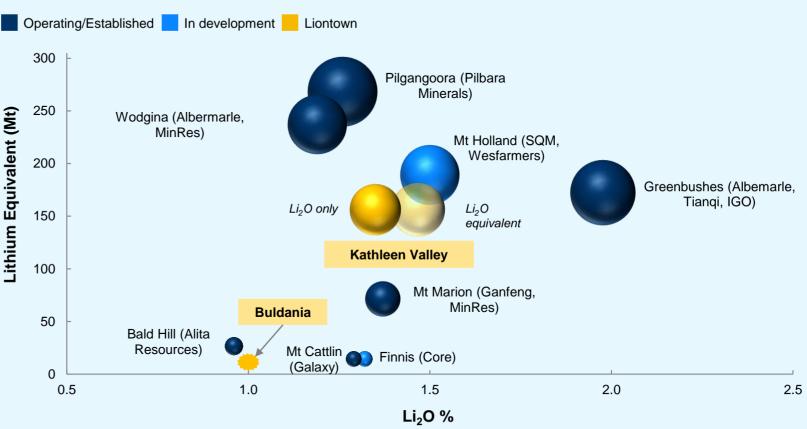
Kathleen Valley Lithium-Tantalum Project

Tier 1 deposit in a premier mining district



Kathleen Valley is a uniquely positioned, globally significant Tier 1 lithium resource

- **156Mt** one of world's largest hard rock lithium resources, with reserves already defined
- 1.4% Li₂O high-grade resource
- Long-term mine life allowing for downstream options
- **Simple, robust resource –** potential for premium product
- Competitive cost structure- resilient through the lithium commodity cycle



Australian hard rock lithium operations and advanced projects By project, size, and grade

Average spodumene price over the last five years US\$588/t²

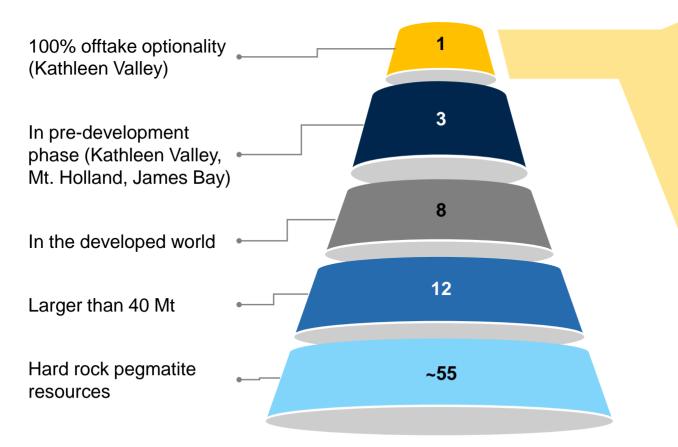
Refer to Appendix 1 for Peer Comparison information including Resource Classifications; refer to Appendix 1 for Li₂O equivalents parameters and calculations.

Kathleen Valley – a unique lithium opportunity



x Number of deposits

Kathleen Valley is the only large (>40 Mt), uncommitted, pre-development phase hard rock lithium deposit in the developed world



Large, globally significant, high-grade resource – 156Mt @ 1.4% Li₂O

100% offtake optionality – Liontown retains full offtake arrangement flexibility

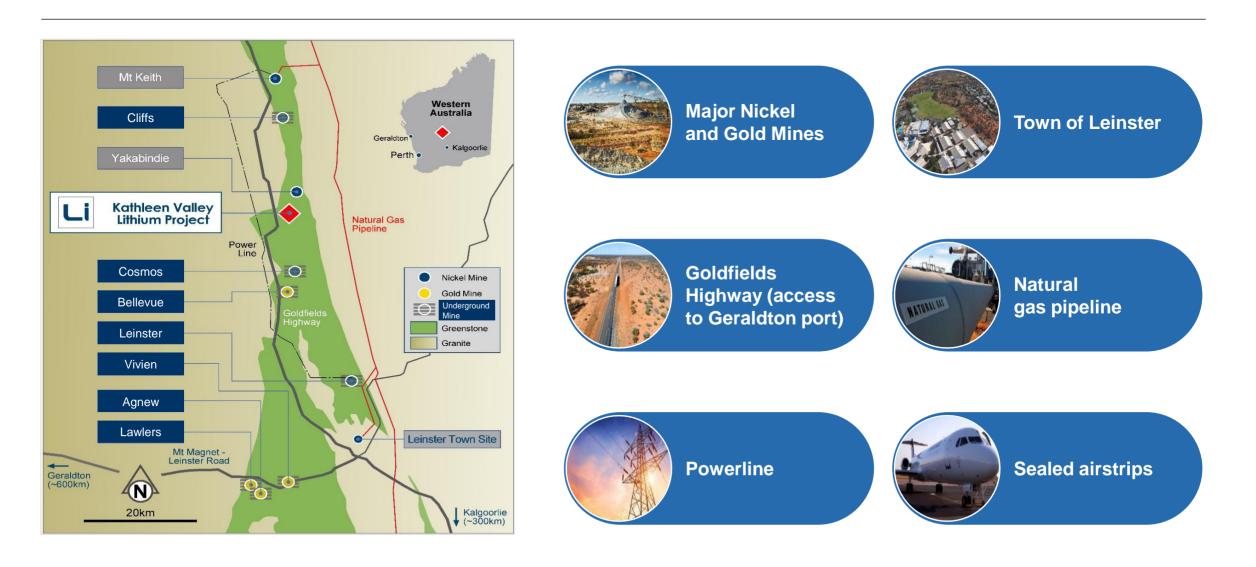
PFS demonstrates low cost, long-life, scalable operation with strong economics

Ability to accelerate to capture the **emerging** supply opportunity

Source: Lithium 2019: International lithium and Battery Metals Conference 2019/ Perth, WA 3-4 July 2019 and Appendix 1 for Peer Comparison information including Resource Classifications

Stable, established and well-governed mining jurisdiction





Kathleen Valley lithium-tantalum project

The Definitive Feasibility Study (DFS) and optimisation efforts are well advanced to maximise value

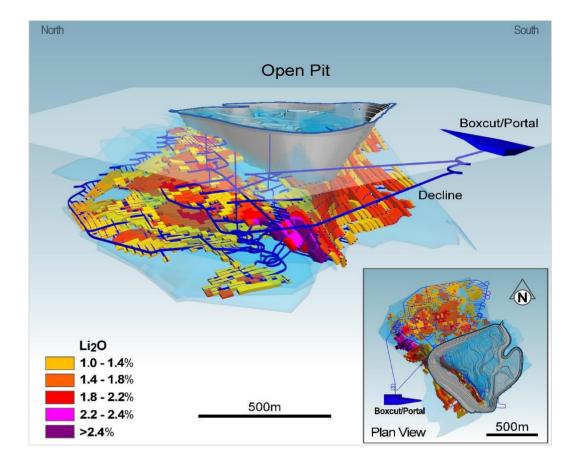


DFS update

- On track to conclude Q4 2021
- Assessing technology adoption to minimise Scope 1 and Scope 2 emissions
- Ongoing test work including ~3 tonne pilot program
- Continuing engagement with Traditional Owners to strengthen social licence

Additional optimisation effort to maximise optionality

- Mine schedule optimisation to improve grade/recovery of project
- Throughput increase options under examination
- Final concentration/grade optimisation (with potential for >6% Li₂O premium concentrate)
- **Design schedule accelerated** to meet the market targeting 3 year development timeline





Lithium developers are moving underground

Rationale for underground lithium mining



Reduces environmental and social impacts associated with open-pit mining - Best-in-class Scope 1 and 2 emissions



Improves ore quality resulting in lower impurities, improved recoveries and reduced operating costs



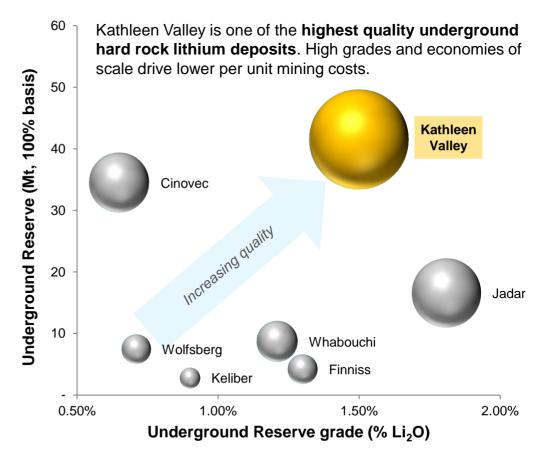
Provides early access to **higher grades**, resulting in greater blend optionality for **optimum processing**



Minimises waste rock managed and stockpiled on surface - including tailings disposal underground

Underground Reserve grade and tonnage

Bubble size represents underground Reserve LCE



Note: Refer to Appendix 1 for Peer Comparison information

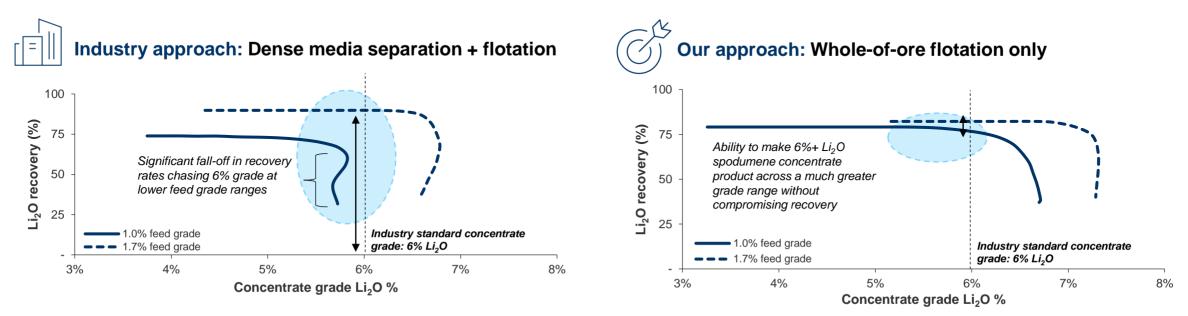


Whole-of-ore float processing provides high recoveries

Why whole-of-ore flotation?

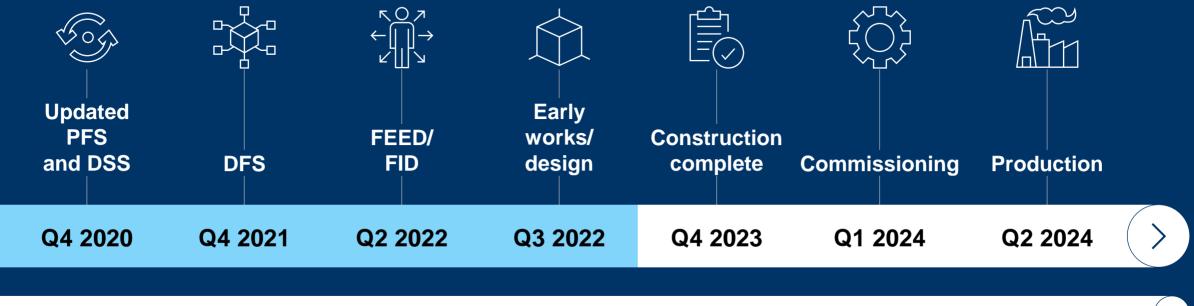
- ✓ Reduces operational challenges associated with mixed DMS-flotation processing methods
- ✓ Significantly improves consistency of recoveries
- ✓ Enhances flexibility to vary head grade and produce a 6% concentrate product without compromising recovery performance

Kathleen Valley Ore Processing Analysis - Supported by 400+ float tests and variability analyses



Kathleen Valley lithium-tantalum project

We aim to accelerate the schedule to better meet timing of expected market shortfall



Continued assessment of growth and downstream processing options



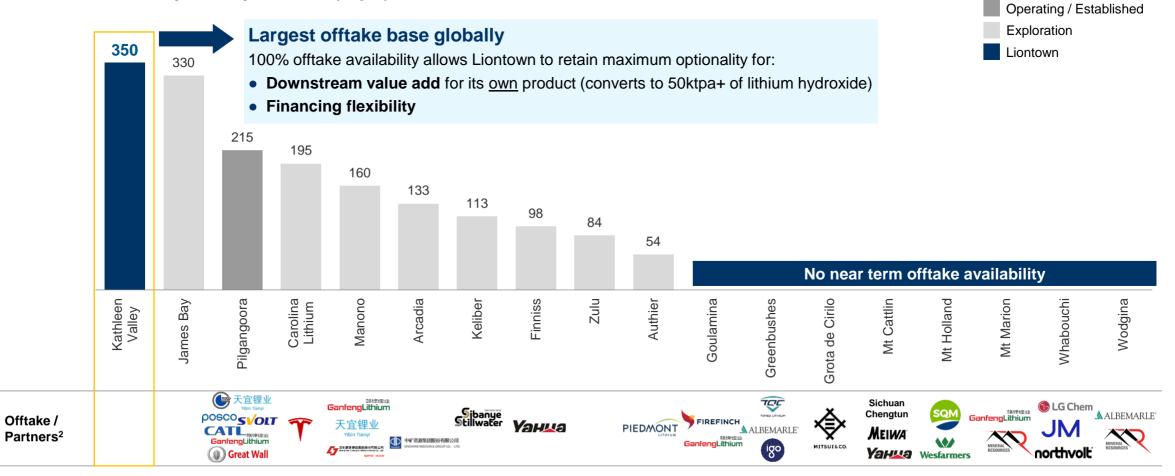
Opportunities to accelerate our entry to market through

- Securing near-term offtake agreements
- Accelerating project financing
- Orders placed for critical long lead items



Preserving Market Options

Offtake availability of key assets (ktpa)¹



1: Refer to Appendix 1 for source data. | 2: Includes offtake partners, asset level partners and JV partners (battery players only). | Note: Excludes Jadar given jaderite concentrate (vs. spodumene concentrate). Assumes Mt Holland spodumene product is contracted to the integrated downstream facility with SQM.

Kathleen Valley is just the beginning... Liontown has additional growth opportunities



Liontown has optionality around future growth...

Growth dimension 1: organic growth with current assets

- Increase resources/reserves at Kathleen Valley
- Expand production capacity at Kathleen Valley
- Develop additional lithium assets Buldania

Growth dimension 2: downstream in lithium value chain

• Precursor material processing and production

Growth dimension 3: new projects

- Secure additional high quality lithium mining opportunities
- Continued exploration opportunity in battery materials



In the lithium market, downstream producers have historically had higher and more resilient margins



Integrated Integrated Value chain	egrated raw mate	erial convertor and downstream players	Vertically integrated OEMs & JVs		
Est. margin		21% - 26% ¹	6% - 28% ¹		
Example Market participants	ALBEMARLE*		ANIO TEELF		
Estimated total market size (US\$b)	2020 \$3.7	2025 \$15.0 2030 \$27.5	2020 2030 \$25.1 \$137.2		

1: Not exhaustive, margin percentages are averaged over time (2016 – 2020) and companies, not indicative of the individual companies listed, sourced from company filings from 2016 – 2020.

Source: Bloomberg NEF, Roskill May 2021, Department of Industry, Science, Energy and Resources, Commonwealth of Australia Resources and Energy Quarterly March 2021, Tesla Q1 update 2021, MineSpans, S&P Global.

Kathleen Valley lithium-tantalum project

Liontown – key investment takeaways





Kathleen Valley is a globally significant, high-grade resource 156Mt @ 1.4% Li₂O

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Targeting best-in-class ESG credentials Enabled by underground mining



Full offtake optionality

Retaining full flexibility of offtake arrangement



Low cost, long-life, scalable operation with strong economics

In a growing market with attractive fundamentals



Significant upside potential

With further studies and downstream processing



Stable, well-established mining jurisdiction Able to leverage local infrastructure



Highly experienced Board and Executive Leadership Team

With a proven track record



Accelerating to capture the emerging supply opportunity

And a clear path to meet the market

Thank You

Visit www.ltresources.com.au

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APPENDIX 1

Kathleen Valley Project Additional Information



Resources & Reserves



Mineral Resource Estimate¹ – March 2021 Million Cut-off Resource Ta₂O₅ Li₂0% Li₂0% Category Tonnes (ppm) 0.55 Measured 20 1.3 145 130 Indicated 109 1.4 Inferred 27 1.3 113 TOTAL 156 1.4 129

Ore Reserve – October 2020

Category		Million Tonnes	Li₂O%	Ta₂O₅ (ppm)
Underground	Proven	3.9	1.4	130
	Probable	37.6	1.5	120
	Sub Total	41.5	1.5	120
Open Pit	Proven	11.7	1.2	140
	Probable	17.6	1.2	130
	Sub Total	29.3	1.2	130
TOTAL		70.8	1.4	130

North South **Open Pit** Boxcut/Portal Decline Li₂O 1.0 - 1.4% 1.4 - 1.8% 1.8 - 2.2% 500m Boxcut/Porta 2.2 - 2.4% 500m >2.4% Plan View

1: Inclusive of ore reserve

Peer Comparison Information – Mineral Resource Estimates



Company	Project	Stage	Measured Mt	Indicated Mt	Inferred Mt	Global MRE Mt	MRE Li₂O Grade %	Information Source
Liontown Resources	Kathleen Valley	Development	20.0	109.0	27.0	156.0	1.35	ASX Release 8/4/2021
	Buldania	Scoping	0.0	9.1	5.9	14.9	0.97	ASX Release 8/11/2019
Pilbara Minerals	Pilgangoora	Operating	18.3	113.8	90.4	222.5	1.26	2020 Annual Report
	Pilgangoora (Altura)	Operating	7.4	34.2	4.1	45.7	1.06	2019 Ann Rep, 9/10/2019 ASX release
SQM(50%)/Wesfarmers (50%)	Mt Holland	Development	66.0	106.0	17.0	189.0	1.50	ASX Release 19/3/2018 (Kidman Resources)
Albermarle (49%)/ Tianqi (26%)/IGO (25%)	Greenbushes (excl taillings)	Operating	0.2	163.1	8.9	172.2	1.98	IGO acquisition presentation and ASX release 9/12/20
Alita Resources	Bald Hill	Operating (C+M)	0.0	14.4	12.1	26.5	1.00	ASX Release 6/6/2018 (Alliance Minerals Assets)
Ganfeng (50%)/ MinRes Ltd (50%)	Mt Marion	Operating	0.0	22.7	48.7	71.3	1.37	ASX Release 31/10/2018 (Mineral Resources)
Core Lithium	Finnis	Development	3.2	4.4	7.1	14.7	1.32	2020 Ann Rep, 23/6/2020 Presentation
Albermarle (60%)/ Min Res Ltd (40%)	Wodgina (excl tailings)	Operating (C+M)	0.0	177.0	59.9	236.9	1.19	ASX Release 23/10/2018 (Mineral Resources)
Galaxy Resources	Mt Cattlin (100%)	Operating	1.0	9.2	4.4	14.6	1.29	ASX Release 11/3/2020

Kathleen Valley



Lithium Equivalency ($Li_2O + Ta_2O_5$) Parameters

Inputs				Outputs	Li ₂ 0%	
Tantalite (Ta ₂ O ₅) \$/lb	69.9	(B2)	US\$ (Roskill 2025 – 2040 average price adjusted to FOB)			
Spodumene \$/tonne	739	(B3)	US\$ (Roskill 2025 – 2040 average price, adjusted to FOB)			
Tantalite recovery	50%	(B4)	Per LTR testwork inc off site losses ie 90% of 56%	Ta ₂ O ₅ =	0.107 (F4)	
Spodumene Recovery	76%	(B5)	Per LTR testwork			
Ta ₂ O ₅ Grade	30%	(B6)		Equiv Li2O grade =	1.5%	
Li ₂ O Grade	6%	(B7)		(Li ₂ 0% +Ta2O5)		
Grade Ta ₂ O ₅ in resource	130	(B9)	ppm (per resource)			
Grade Li ₂ O in resource	1.35%	(B10)	(per resource)			

Equiv. Li₂O grade (Li₂O% + Ta₂O₅%) = F4/(100+B10)

Peer Comparison Information



LiontownBuildania (100%)ExplorationASX Release 1/1/201914.91.00.4DRC GovernmentManono (30%)DFSMay 2019 Resource Update, sourced from 21/4/2020 ASX release120.01.7Min Res LtdMt Marion (50%)OperatingASX Release 31/10/2018 (Mineral Resources)35.71.4Modgina (40%)Operating (C & M)ASX Release 23/10/2018 (Mineral Resources)94.81.2FireFinchGoulamina (100%)ExplorationASX Release 87/2020108.51.5SQMMt Holland (50%)Pre-Development2018 Annual Report (Kidman Resources)94.51.5WesfarmersMt Holland (50%)Pre-Development2018 Annual Report (Kidman Resources)94.51.5TianqiGreenbushes (26%)Operating160 acquisition presentation 9/12/2044.82.0Galaxy ResourceJames Bay (100%)ExplorationASX Release 11/3202043.12.0Galaxy ResourcesGreenbushes (25%)OperatingASX Release 11/3202040.31.4Mt Cattlin (100%)OperatingASX Release 11/3202014.61.3Galaxy ResourcesGrota de Cirilo (100%)DevelopmentSEDAR Announcement Jan 10th 201952.41.41.8Prospect ResourcesArcadia (87%)ExplorationASX Release 20/11/2019, DFS Nov 2019, Presentation Feb 202063.21.1	(Mt) %Global Resources	LCE ¹ (Mt)	Li₂O%	Global MRE (Mt)	Source	Status	Project (Ownership%)	Company	Global Attributable
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Greenbushes (49%) Operating (60%) Operati			0.7	45.6	https://www.albemarle.com/businesses/lithium/resourcesrecycling/lithium-	Operating (C & M)	Kings Mountain (100%)		
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WesfarmersMt Holland (50%)Pre-Development2018 Annual Report (Kidman Resources)94.51.5TianqiGreenbushes (26%)OperatingIGO acquisition presentation 9/12/2044.82.0IGOGreenbushes (25%)OperatingIGO acquisition presentation 9/12/2043.12.0Galaxy ResourcesJames Bay (100%)ExplorationASX Release 11/3/202040.31.4Mt Cattlin (100%)OperatingASX Release 11/3/202014.61.3Sigma LithiumGrota de Cirilo (100%)DevelopmentSEDAR Announcement Jan 10th 201952.41.41.8Prospect ResourcesArcadia (87%)ExplorationASX Release 20/11/2019, DFS Nov 2019, Presentation Feb 202063.21.1	5.0		1.5	108.5	ASX Release 8/7/2020	Exploration	Goulamina (100%)	FireFinch	
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Galaxy ResourcesMt Cattlin (100%)OperatingASX Release 11/3/202014.61.3Sigma LithiumGrota de Cirilo (100%)DevelopmentSEDAR Announcement Jan 10th 201952.41.41.8Prospect ResourcesArcadia (87%)ExplorationASX Release 20/11/2019, DFS Nov 2019, Presentation Feb 202063.21.1	2.7		2.0	43.1	IGO acquisition presentation 9/12/20	Operating	Greenbushes (25%)	IGO	
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Prospect Resources Arcadia (87%) Exploration ASX Release 20/11/2019, DFS Nov 2019, Presentation Feb 2020 63.2 1.1	2.4		1.3	14.6	ASX Release 11/3/2020	Operating	Mt Cattlin (100%)	Galaxy Resources	
	3 2.4	1.8	1.4	52.4	SEDAR Announcement Jan 10th 2019	Development	Grota de Cirilo (100%)	Sigma Lithium	
	2.2		1.1	63.2	ASX Release 20/11/2019, DFS Nov 2019, Presentation Feb 2020	Exploration	Arcadia (87%)	Prospect Resources	
DathomirManono (10%)DFSMay 2019 Resource Update, sourced from 21/4/2020 ASX release40.01.7	2.1		1.7	40.0	May 2019 Resource Update, sourced from 21/4/2020 ASX release	DFS	Manono (10%)	Dathomir	

Peer Comparison Information



Global MRF %Global Project LCE¹ (Mt) **Global Attributable** Li₂0% Company Status Source (Mt) (Ownership%) Resources Hard Rock North American Lithium La Corne (100%) 47.0 1.2 1.8 Development NAL website - http://na-lithium.com/projects/, from Oct 12 2012 report (CATL) (Spodumene) Ganfeng Mt Marion (50%) Operating ASX Release 31/10/2018 (Mineral Resources) 35.7 1.4 1.6 Resources Piedmont Lithium Core & Central (100%) SS ASX Release 07/04/2021 39.2 1.1 1.1 1.4 (continued) Frontier Lithium **PAK & SPARK (100%)** Exploration NI43-101 March 19 2020 (Frontier Lithium) 25.8 1.5 1.3 Quebec Lithium Whabouchi (50%) Nemaska May 31 2019 NI43-101 27.8 1.4 1.2 Development Partners Investissement Quebec Whabouchi (50%) 27.8 1.4 1.2 Development Nemaska May 31 2019 NI43-101 Critical Elements Nov 29, 2017 NI43-101, 2020 Management Discussion and Critical Elements Rose (100%) DFS 34.7 0.9 0.8 1.0 Analysis (31/08/2020) Mina Do Barosso et al Savannah Exploration May 2019 Resource Announcement 27.0 1.1 0.9 (100%) 24.5 AMG Mibra (100%) Operating 3rd April 2017 AMG release 1.1 0.8 Alita Resources Bald Hill (100%) Operating (C & M) ASX Release 6/6/2018 (Alliance Minerals Assets) 26.5 1.0 0.8 Kodal Minerals Bougouni (100%) Exploration August 27 2020 Corp Presentation 21.3 1.1 0.8 Premier African Zulu (100%) Exploration 13/11/2017 Scoping Study by Bara Resources 20.1 1.1 0.7 Minerals Sayona Authier (100%) DFS ASX Release 24 /9/2018 20.9 1.0 0.7 Core Lithium Bynoe (100%) DFS 2020 Ann Rep, 23/6/2020 Presentation 14.7 1.3 0.5 0.6 Ewoyaa-Abonko-Iron Ridge Resources Exploration AIM Release 28/1/2020 14.5 1.3 0.6 Kaampakrom (100%) Keliber Ostrobothnia (100%) DFS Company releases 30/9/2019 and 5/12/2019 14.2 1.1 0.5 **Essential Metals** Cade (100%) ASX Release 29/9/2020 11.2 1.2 0.4 Exploration GuoAo Lithium Moblan (60%) Exploration ASX Release 31/5/2011 (Perilya) 8.6 1.4 0.4 1: Lithium Carbonate European Lithium Wolfsberg (100%) Exploration ASX Release 3/7/2017 11.0 1.0 0.4 Equivalent (LCE) Exore Resources / assumes multiple of Sepeda (100%) Exploration Dakota Minerals ASX Release 20/2/2017 10.3 1.0 0.3 Dakota Minerals 2.473 of Li₂O (British SOQUEM 5.7 1.4 0.3 Geological Survey). Moblan (40%) Exploration ASX Release 31/5/2011 (Perilya)

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APPENDIX 2

Net-Zero definition

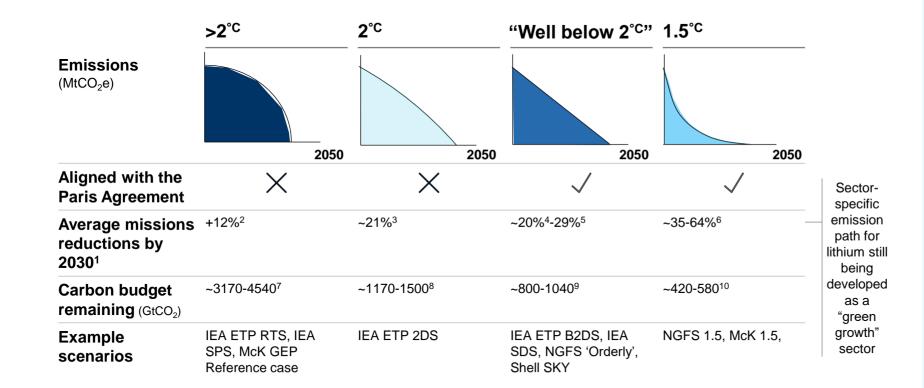




Appendix 2 Net-Zero Definition Liontown will firm up its net-zero trajectory aspiration before FID

Selected examples of different "net zero" pathways





There are many different ways to meet "net zero" by 2050

1: Approximations, compared to 2020, based on published scenarios | 2: IEA ETP 2017 RTS (assuming 33.5 GtCO2direct emissions from energy in 2020) | 3: IEA ETP 2017 2DS (assuming 33.5 GtCO2direct emissions from energy in 2020) | 4: Based on IEA 2020 WEO SDS scenario, direct CO_2 emissions from energy, global | 5: NGFS 2020 'Orderly' (CO_2) | 6: NGFS 2020 1.5 with CDR and with limited CDR respectively | 7: IPCC AR5, RCP6.0, 720-1000ppm CO_2e , cumulative emissions 2011-2100: 3620-4990, minus 9 years emissions of ~50GtCO_2e/year since 2011 = 3170-4540, approximation of $50GtCO_2e/yr$ based on Climatewatch data | 8: IPCC SR15 report, budget starting from 2018, for 2C, at 67th and 50th percentile | 9: IPCC SR15 report, budget starting from 2018, for 1.75C, at 67th and 50th percentile | 9: IPCC SR15 report, budget starting from 2018, for 1.5C, at 67th and 50th percentile

APPENDIX 3

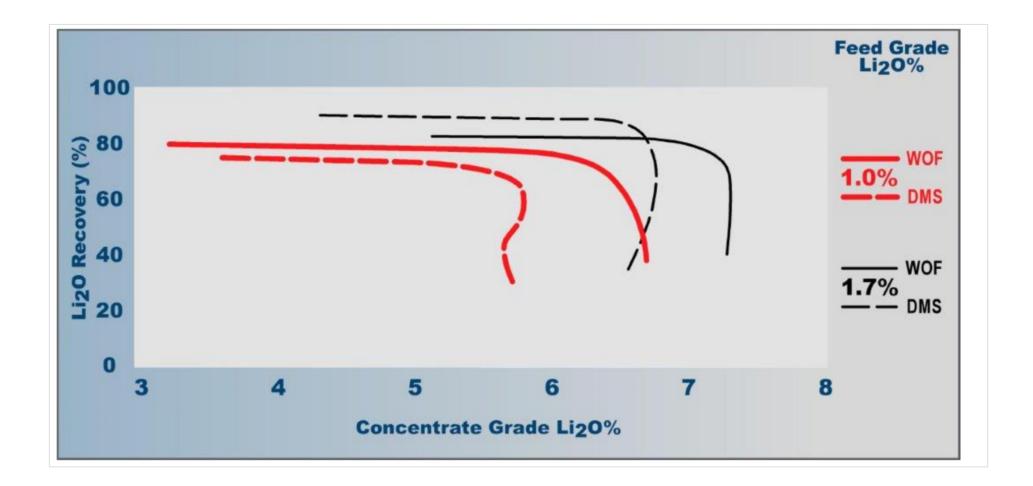
Grade/Recovery Curves





Grade/Recovery Curves (DMS vs WOF)





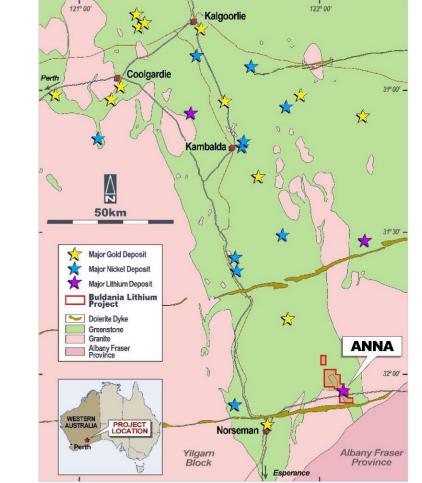
APPENDIX 4

Buldania



Project Overview





Buldania is in a lithium-rich mineral province



- Outcropping, fresh, spodumene-related mineralization
- 2 Mineralisation at Anna extends to the SE under shallow cover strike length >1.4km and open
- 3 Similar geology to the Mt Marion and Bald Hill lithium deposits (71Mt¹ and 26Mt² respectively)
- 4
 - Good infrastructure located on Eyre Highway ~30km east of Kalgoorlie-Esperance railway
- 5
- Liontown has 100% of the lithium and related metal rights



Mining Lease Application lodged over Anna deposit¹

^{1:} Mt Marion – Refer to Peer Comparison table – slide 29.

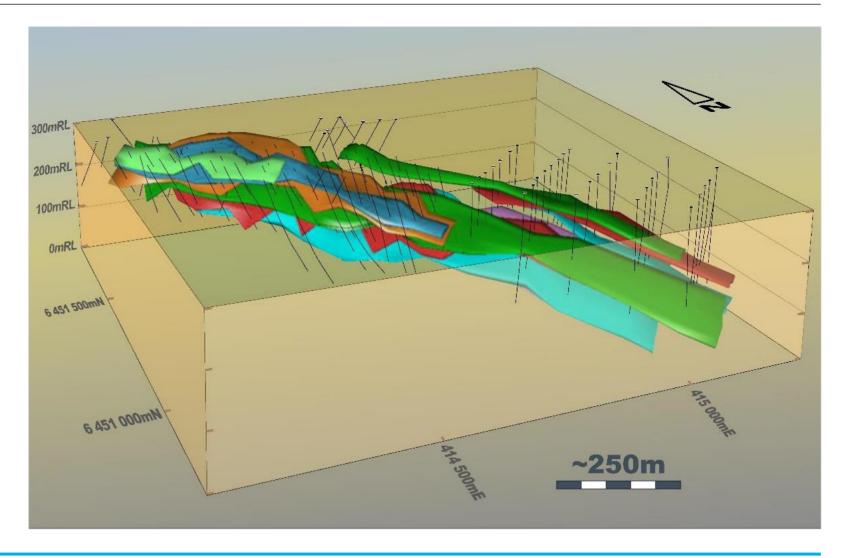
^{2:} Bald Hill source: http://www.allianceminerals.com.au/projects/

Resource



Maiden Mineral Resource Estimate 14.9Mt @ 1.0% Li₂O

The MRE complements Liontown's flagship Kathleen Valley Lithium Project





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